

WHAT IS CLAIMED IS:

1. A safety sensor for a power operated overhead door comprising:

an elongated housing made of non-conductive material and having an elongated pathway, said pathway having a circular cross-section along its length, with the midpoint of the pathway being of greater diameter than the diameters of the distal ends thereof, and with the pathway tapering inwardly from said midpoint to the distal ends thereof;

said housing having a recess portion at each distal end of the elongated pathway;

an electrical contact disposed in each said recess portion and connected to the electrical power system of the overhead door;

a ball bearing disposed in said elongated path; and

said elongated housing being mounted horizontally to the door whereby upon the door being tilted, said ball bearing will roll to the respective recess portion to establish an electrical contact for disengaging the electrical power system thereby stopping movement of the door.

2. A safety sensor for a power operated overhead door as in claim 1, wherein the taper of the pathway extending from said midpoint to each distal end thereof is in the range of 0° to 5°.

3. A safety sensor for power operated overhead door as in claim 2, wherein the taper is 1°.

4. A safety sensor for power operated overhead door as in claim 2, wherein the taper is 1.5°.

5. A safety sensor for a power operated overhead door as in claim 1, wherein each electrical contact includes a conductive ring and an electrical contact pin, said conductive ring and contact pin being spaced from each other at a distance less than the diameter of the ball bearing.

6. A safety sensor for a power operated overhead door as in claim 5, wherein the conductive ring is made of bronze.

7. A safety sensor for a power operated overhead as in claim 5, wherein the electrical contact pin is aligned with the longitudinal axis of the pathway.

8. A safety sensor for a power operated overhead door comprising:

an elongated housing made of a non-conductive material which is impact resistant and waterproof, said elongated housing having an elongated pathway, said pathway having a circular cross-section along its length, with the midpoint of the pathway being of greater distance than the diameters of the distal ends thereof, and with the pathway tapering inwardly from said midpoint to the distal ends thereof;

said housing having a recess portion at each distal end of the elongated pathway, with an electric contact disposed in each said recess portion, each said electrical contact including a conductive ring and a contact pin, said conductive ring and contact pin being spaced from each other;

a ball bearing disposed in said elongated pathway, the diameter of said ball bearing being greater than the spacing between said contact pin and the conductive ring that are disposed in each said recess portion; and

said elongated housing being mounted horizontally to the door whereby, when the door is tilted, said ball bearing will roll to the respective recess portion to establish an electrical contact for disengaging the electrical power system thereby stopping movement of the door.

9. A safety sensor for a power operated overhead door as in claim 8, wherein the taper of the pathway extending from said midpoint to each distal end thereof is in the range of 0° to 5° .

10. A safety sensor for a power operated overhead door as in claim 9, wherein the taper is 1° .

11. A safety sensor for a power operated overhead door as in claim 9, wherein the taper is 1.5° .

12. A safety sensor for a power operated overhead door as in claim 8, wherein the contact pin and the longitudinal axis of the conductive ring are aligned with the longitudinal axis of the pathway.